Referring to FIG. 6b, voice packets are converted to voice signals and sent to the outside line 201, and voice signals from outside the line are converted to packets with DA as destination address and device ID as source address 202. If a hang up packet with source as DA is received 203, the outside line is hung up 204. If there is not a hang up signal from the outside line 205, continue to hang up the outside line 204. If a hang up signal is received from the outside line 206, return the LTW to detecting voice packets 170. If a hang up packet with source as DA is not received 207 and if there is no hang up signal from the outside line 208, then continue converting received voice packets to voice signals 201 and converting voice signals from outside line to packets 202. If a hang up packet with source as DA is not received 207 and if there is a hang up signal from the outside line 209, send packet with hang up signal to queue with DA as destination address and port ID as source address 210. Hang up out side line 211 and return the LTW to detecting voice packets 170.

While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made without departing from the spirit and scope of the invention.

What is claimed is:

1. A voice and data network, comprising:

a) a telephone and a computer connected to a voice and data module (VDM),

b) a plurality of said VDM devices connected to a plurality of telephone wires in a building,

5   c) said plurality of telephone wires connected together to provide a telephone network,

d) a link to wide area network (LTW) connects said telephone network to a Public Service Telephone Network (PSTN) and an Internet Service Provider (ISP),

e) said LTW and said plurality of said VDM devices communicate together over
10 said telephone network using communication addresses assigned to said LTW and each VDM of said plurality of VDM devices.

2. The voice and data network of claim 1, wherein said plurality of said VDM devices connect a plurality of telephones and a plurality of personal computers to a
15 plurality of data signals and a plurality of voice signals on said telephone network operating concurrently.

3. The voice and data network of claim 1, wherein said LTW and said plurality of VDM devices communicate over said network of telephone wires by means of Token in
20 Ethernet Protocol (TEP) technology.

4. The voice and data network of claim 1, wherein telephone service is provided to said building from said ISP and said PSTN.

5. The voice and data network of claim 1, wherein more than one LTW is connected to said telephone network.

6. A method for communicating between network elements in a voice and data network, comprising:

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a) monitoring a communication network by a first voice and data module (VDM) for a call from a second VDM and a call from a link to a wide area network (LTW) connected to said communication network,

b) monitoring a first phone and a first computer attached to said first VDM for an outgoing call to a destination containing a second phone and a second computer connected to said second VDM, or an outside phone and an outside computer network through said LTW,

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c) detecting said outgoing call and connecting said call if said destination is not busy, else providing a busy signal and disconnecting said outgoing call,

d) detecting an incoming call and connecting said call if a receiving device comprising said first phone and said first computer is not busy, else sending back said busy signal and disconnecting said incoming call,

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e) disconnecting phone calls or computer calls when a phone hang up or a computer disconnect signal is detected and returning to monitoring said network for said incoming call.

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7. The method of claim 6 wherein, detecting, connecting and disconnecting a call is done using Tokens in Ethernet Protocol technology where packets carry

communication between said first and said second VDM, and between said first VDM

and said LTW.

8. The method of claim 6 wherein, communicating between computers is done

5 directly in Ethernet protocol eliminating the need for any conversion.

9. The method of claim 6 wherein, connecting a long distance phone call is done

through said ISP without the use of a computer to assist in the call.

10 10. The method of claim 6 wherein, detecting a request from said first computer

for a connection to an Internet service provider (ISP), sending request for the connection

to said LTW and completing connection to said ISP is completed when the LTW

responds with a connection completed signal.